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EXAMINER	
GREY, CHRISTOPHER P	

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2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/674,977	BROWN ET AL.	
	Examiner	Art Unit	
	CHRISTOPHER P. GREY	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 10 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Bly (US 20040042399).

Regarding Claim 10, Bly discloses a plurality of distributed bus request queue managers **(fig 4, 12 represents a burst group manager which is equivalent to that of a bus request queue manager as the claim does not define the specs of such a manager. Also from fig 1, 12, 14 and 16 are the same, and thus are equivalent to a plurality)** at least some of which include load shaper portions **(see fig 4 shows a shaping engine for performing the function of shaping)** operable to establish separate class identified queues **(para 0024, where the shaping engine is operable to classify the incoming traffic onto selected queues)** having priority **(para 0024 shows that video data maybe given priority over other forms of data such as email)** over best effort data packet queues **(para 0038, where email data maybe classified for best effort services)**; and

Bly discloses BMC **(fig 4, 51 shows a burst group credit allocation circuit equivalent to a controller)** operable to distribute base tokens **(para 0030, where the burst group responds with whatever credit/tokens are available and para 0043-0044, where the burst group allocation circuit adds credit to the queue bucket)** for an authorized minimum BW **(para 0030, where an available/authorized credit is allocated/authorized, where from para 0029, the minimum rate/BW is equivalent to one credit…)** to said load shaper requesting **(para 0043-0044, where from fig 4, the credit allocated by 51 must pass through the shaping engine 34/load shaper, and furthermore, initially the request described in para 0043 also passes through the load shaper 34)** same whereby a plurality of distributed sources **(fig 1, where each stream 0-N is from a plurality of different sources)** can share a common class allocation **(fig 1, where as described above, each burst group represents a different class)** of guaranteed BW **(para 0039 discusses that a queue is given a guaranteed minimum credit, where as discussed above, the credit can be used as a form of the rate)** in accessing a common resource **(see fig 1, where a plurality of streams are guaranteed BW).**

Regarding Claim 11. Bly discloses communication path utilization monitoring means **(fig 4, 42, where the counter is used for keeping a depth count, which is a form of monitoring)**; and standby means **(fig 4 51 is equivalent to a standby means)**, operating in conjunction with said BMC and said communication path utilization monitoring means, to increase BW for at least some classes **(Para 0044)** above the guaranteed BW by distributing standby tokens **(additional tokens allow the**

total BW to exceed the minimum BW as disclosed in para 0029), in addition to the base tokens, when the communication path is under-utilized **(para 0039, taking advantage of unused BW, and para 0044, where credit is added).**

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bly et al. (US 20040042399) in view of Fijolek et al. (US 6553568), hereinafter referred to as Fijolek

Regarding Claim 1, Bly discloses a load shaping means **(fig 4, 34, shaping engine dedicated for shaping incoming traffic).**

Bly discloses incoming data comprising a class of device and or application **(para 0016 and 0024, classify traffic, where the data may be classified based on video or email, which are both applications).**

Bly discloses authorizing **(para 0030, where the credit allocation circuit 51 allocated/authorizes the available/authorized credit)** to transmit data **(fig 8, 90, where data is sent given enough credit)** up to at least a given minimum bandwidth **(para 0029 specifies that a minimum rate/BW is equivalent to one credit…)** in a

given operational time period **(para 0028, where the shaper allows BW allocation, and para 0029, where a minimum rate is allocated).**

Bly discloses a BMC **(fig 4, 51 shows a burst group credit allocation circuit equivalent to a controller)** operable to maintain a table of BW **(fig 4, 50 BW allocation table)** authorized for a class **(where the burst group credit allocation scheme performed by 51/BMC, allocated credits for each burst group, where each burst group is classified, where classification based on priority or some other means is an authorized procedure)** and further operable, in response to each request **(para 0043, where the request is from the BAT, however is received by the credit allocation table from the shaping engine 34)** from one of said load shaping means **(fig 4, 34 shows the load shaper)**, to supply at least one more token **(fig 8, 86, where the fact that the process is looped indicated that adding credits/tokens as displayed in 86 may be repeated)** for permitting at least one further data packet to be transmitted **(fig 8, 90 where the frame/data packet is transmitted)** at least up to said BW authorized for each given class **(para 0024, where the burst groups/given classes are authorized to different classes, where the different classes define given BW).**

Bly does not specifically disclose data packet communication path requests from one or more managed devices.

Fijolek discloses data packet communication path requests from one or more managed devices (**fig 8, 168 and Col 16 lines 8-18).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the traffic shaping of Bly, as taught by Fijolek, since stated in Col 16 lines 11-13, that such a modification will provide a reliable transport facility.

Regarding Claim 2. Bly discloses communication path usage monitoring means operable to permit said BMC to supply tokens to requesting load shaping means that exceed the class authorized BW, for a given operational period, when the communication path is being utilized at less than a given percentage of capacity **(para 0039, sharing allocation of the burst group, and taking advantage of unused credit).**

5. Claims 3, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bly (US 20040042399) in view of Agrawal et al. (US 7006440), hereinafter referred to as Agrawal

Regarding Claim 3. Bly discloses maintaining a compilation of information **(fig 4, 50 shows a table containing a compilation of data such as that shown in fig 6)** as to classes of data sources **(para 0024 shows that data is enqueued based upon classification of the incoming data)** authorized **(where classifying data differently is an authorization process)** to have priority **(para 0024, shows best effort services having a low priority and video data having a higher priority)** in a given time period of operation **(para 0024 discusses latency and jitter, which are determined for a given operational period)** along with authorized minimum BW **((para 0030, where an available/authorized credit is allocated/authorized, where from para 0029, the**

minimum rate/BW is equivalent to one credit…) for each class **(fig 1, where each burst group represents a different class of data or application)** and allowable additional standby BW for each class **(para 0028, updating shaping queue with bandwidth tokens, also classes are defined by para 0016).**

Bly disclose the request being for at least one additional transmission token **(para 0043 shows a request for credits/tokens)** from a centralized controller **(fig 4, 51, where the credit allocation circuit is equivalent to a controller)** having access to said compilation of information **(compilation of info 50 has access to credit allocation circuit 51 through the shaping means 34)**, as each data packet is placed in a unique class queue **(para 0016 and burst group queues)**, to be transmitted; providing additional transmission tokens **(fig 8, 86, where the loop of fig 8 indicated that the allocation of credits/tokens is repeated, thus additional tokens are provided)**, as requested **(fig 8 84 shows a request)**, for each authorized class **(fig 8, 84, where the burst group represent s an authorized class)**, up to the total of authorized minimum BW and presently allowable standby BW **(para 0029, minimum and max rates)**; and adjusting allowable standby BW for each class as an inverse function of present total communication path utilization **(para 0029, table adjusted in accordance with rates)** for both priority and best efforts data packets **(para 0038, high precedence equivalent to priority and best effort).**

Bly does not specifically disclose a class ID.

Agrawal discloses a class ID **(Col 5 lines 18-27).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the shaping means of Bly, as taught by Agrawal, since stated in the abstract that such a modification will implement a class based queuing structure.

Regarding Claim 4, Bly discloses normal maintaining at least a predetermined minimum BW **(para 0029, min rate)** for all best efforts data packets queued for transmission **(para 0038, best effort, also see Agrawal Col 6 for info on BE).**

Regarding Claim 7, Bly discloses BMC **(fig 4, 51 shows a burst group credit allocation circuit equivalent to a controller)** means interconnected to said shaper means **(fig 4, 34 shows a shaping means)** for managing base tokens and standby tokens **(fig 4 and para 0043-0044, where the credit allocation circuit 51 allocates/manages credits, where the claim does not define any difference between standby and base tokens)**.

Bly also discloses shaper means **(fig 4, shaping engine).**

Bly does not specifically disclose shaper means for comparing payload class against class restriction status;

Agrawal discloses shaper means for comparing payload class against class restriction status **(fig 5, where for a specific class of incoming data, a shaper, 92 compares/identifies whether a drop or pass signal equivalent to a class restriction is present, and shaping is performed accordingly).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the shaping means of Bly, as taught by Agrawal, since stated in

Col 2, lines 26-27, that such a modification provides a fair technique for dropping packets in class based queuing.

6. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bly (US 20040042399) in view of Agrawal et al. (US 7006440), hereinafter referred to as Agrawal in further view of Hosein (US 6570847)

Regarding Claim 5, Bly discloses providing separate data path transmission queues **(see fig 4, 44-47 and para 0021, and also fig 1, where each burst group contains specific queues such as those described within element 50 of fig 4 and 6),** of source initiated data packets **(fig 1 where each incoming stream is obviously as a result of some form of source)**, within each of a plurality of multiplexed **(fig 1, where multiplexing is shown as a plurality of streams/paths are combined to form one output)** communication path queue managers **(fig 1, 12, 14 and 16 and para 0020)**, for best efforts data packets **(para 0038, discusses best effort services for certain types of data)** and each separately identified **(Col 7 line 5-6, packet header which contains a destination and source address for identification)** and authorized class **(para 0016 and 0024 show classification of data, which is an authorized procedure)** of managed data sources **(para 0016 shows that classification can be based on the type of customer such as customer X, where customer X is the source),** the BW of each class being centrally controlled **(para 0028, where a shaping engine control allocated BW);**

Bly discloses managing the bandwidth (allowed in a given operational time period by supplying an additional class specific token from a BMC **(fig 4, 51 shows a burst group credit/token allocation/managing circuit equivalent to a controller)** to a requesting path queue manager to replace a given class token used by said path queue manager when placing a managed source data packet in queue for transmission **(para 0042-0044, where the additional tokens is used as additional bandwidth for the allocated queue, and may replace whatever BW credit/token is already used within that queue),** additional class specific tokens being supplied up to a total limit of authorized and standby values maintained by said BMC for each operational time period **(see fig 6, which shows the standby tokens mapped to the respective queues);**

Bly does not specifically disclose the data packets each separately identified classes. Bly also does not disclose adjusting said standby values downwardly as a function of detected congestion in said multiplexed communication path

Agrawal discloses a class ID **(Col 5 lines 18-27).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the packet header of Bly, as taught by Agrawal, since stated in the abstract that such a modification will implement a class based queuing structure.

The combination of Bly and Agrawal do not specifically disclose adjusting said standby values downwardly as a function of detected congestion in said multiplexed communication path.

Hosein discloses adjusting said standby values downwardly as a function of detected congestion in said multiplexed communication path **(Col 3 lines 1-3,**

regulating the rate of traffic using tokens and Col 4 lines 16-33, where a an STP regulates and adds tokens to the token bank of the switches).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the combined teachings of Bly and Agrawal, as taught by Hosein, since stated in the background of the invention that such a modification will regulate traffic thus avoiding overloading.

Regarding Claim 16, Bly discloses providing separate data path transmission queues **(see fig 4, 44-47 and para 0021, and also fig 1, where each burst group contains specific queues such as those described within element 50 of fig 4 and 6),** of source initiated data packets **(fig 1 where each incoming stream is obviously as a result of some form of source)**, within each of a plurality of multiplexed **(fig 1, where multiplexing is shown as a plurality of streams/paths are combined to form one output)** communication path queue managers **(fig 1, 12, 14 and 16 and para 0020)**, for best efforts data packets **(para 0038, discusses best effort services for certain types of data)** and each separately identified **(Col 7 line 5-6, packet header which contains a destination and source address for identification)** and authorized class **(para 0016 and 0024 show classification of data, which is an authorized procedure)** of managed data sources **(para 0016 shows that classification can be based on the type of customer such as customer X, where customer X is the source),** the BW of each class being centrally controlled **(para 0028, where a shaping engine control allocated BW);**

Bly discloses managing the bandwidth allowed in a given operational time period by supplying an additional class specific token from a BMC **(fig 4, 51 shows a burst group credit/token allocation/managing circuit equivalent to a controller)** to a requesting path queue manager to replace a given class token used by said path queue manager when placing a managed source data packet in queue for transmission **(para 0042-0044, where the additional tokens is used as additional bandwidth for the allocated queue, and may replace whatever BW credit/token is already used within that queue),** additional class specific tokens being supplied up to a total limit of authorized and standby values maintained by said BMC for each operational time period **(see fig 6, which shows the standby tokens mapped to the respective queues);**

Bly does not specifically disclose the data packets each separately identified classes. Bly also does not disclose adjusting said standby values downwardly as a function of detected congestion in said multiplexed communication path

Agrawal discloses a class ID **(Col 5 lines 18-27).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the packet header of Bly, as taught by Agrawal, since stated in the abstract that such a modification will implement a class based queuing structure.

The combination of Bly and Agrawal do not specifically disclose adjusting said standby values downwardly as a function of detected congestion in said multiplexed communication path.

Hosein discloses adjusting said standby values downwardly as a function of detected congestion in said multiplexed communication path **(Col 3 lines 1-3,**

regulating the rate of traffic using tokens and Col 4 lines 16-33, where a an STP regulates and adds tokens to the token bank of the switches).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the combined teachings of Bly and Agrawal, as taught by Hosein, since stated in the background of the invention that such a modification will regulate traffic thus avoiding overloading.

7. Claims 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bly (US 20040042399) in view of Hosein (US 6570847)

Regarding Claim 6. Bly discloses BMC means **(fig 4, 51 shows a burst group credit/token allocation/managing circuit equivalent to a controller)** operable to issue requested class specific base and standby tokens **(para 0043-0044, where the credit allocation circuit 51 allocated credits based on a request, and where the claim does not define any difference between standby and base tokens).**

Bly discloses a plurality of load shaper means **(fig 1, 12, 14 and 16 which each contain a shaping means such as the shaping means 34 shown in fig 4),** connected to a payload transport network **(para 0002, network)** for queuing both best effort **(para 0038, shows queuing of best effort data)** and managed class specific data packets **(para 0024 and 0038, shows video data being classified as managed class specific data)** in separate queues for network transport **(para 0016 for classifying data into groups; and para 0019, for placing these groups of classified data into queues).**

Bly discloses class specific queuing means **(fig 6 shows a plurality of queues, where these queues are dedicated for specific burst groups, where the burst groups are determined by classification)**, comprising a part of at least some of said load shaper means **(fig 4, 34 shows load shaping means connected to the queues 44-47)**, for requesting a replacement class specific token **(para 0030, where the queue requests credit)**, as each token is used in connection with placing a data packet in queue for transmission over said transport network **(fig 8, 90).**

Bly does not specifically disclose the standby tokens being a function of transport network congestion **(Col 3 lines 1-3, regulating the rate of traffic using tokens and Col 4 lines 16-33, where a STP regulates and adds tokens to the token bank of the switches).**

Hosein discloses the standby tokens being a function of transport network congestion **(Col 3 lines 1-3, regulating the rate of traffic using tokens and Col 4 lines 16-33, where a STP regulates and adds tokens to the token bank of the switches)**.

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the teachings of Bly, as taught by Hosein, since stated in the background of the invention that such a modification will regulate traffic thus avoiding overloading.

Regarding Claim 8, Bly discloses maintaining a table of base and standby BWs **(fig 6 shows a table mapping the queues to a number of credits, where para 0026 shows that the number of credits is directly proportional to the queue rate/BW,**

thus credits are determined to represent a form of BW, where the claim does not specify any differences b/w base and standby) available for each of a plurality of managed source classes **(fig 6, where the number of credits specified are the number of credits available, and each queue corresponds to a specific class)**;

Bly does not specifically disclose adjusting the presently allowable BW as a function of communication path congestion.

Hosein discloses adjusting the presently allowable BW as a function of communication path congestion **(Col 3 lines 1-3, regulating the rate of traffic using tokens and Col 4 lines 16-33, where a STP regulates and adds tokens to the token bank of the switches).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the teachings of Bly, as taught by Hosein, since stated in the background of the invention that such a modification will regulate traffic thus avoiding overloading.

Regarding Claim 9. Bly does not specifically disclose the standby BW available is exponentially reduced when congestion is detected; and the available standby BW is linearly increased in a periodic manner when the communication path is not congested.

Hosein discloses the standby BW available is exponentially reduced when congestion is detected; and the available standby BW is linearly increased in a periodic manner when the communication path is not congested **(Col 4 lines 16-33, where the STP adds tokens to the bank to achieve a requested rate, and token bank is**

incremented, while the tokens from the STP or the BW allocation table as disclosed by Bly are reduced).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the teachings of Bly, as taught by Hosein, since stated in the background of the invention that such a modification will regulate traffic thus avoiding overloading.

8. Claims 12, 13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bly (US 20040042399) in view of Lee et al. (US 7224671), hereinafter referred to as Lee.

Regarding Claim 12, Bly discloses maintaining a centralized **(fig 6 shows a centralized count of the credits, where the bandwidth allocation table is considered a central unit)** count of class specific data packet tokens distributed **(see fig 6, which depicts the amount of tokens mapped to each queue)** where each data packet token represents a definable portion of authorized BW **(see claim 1, lines 15-22 shows BW credit, where the credit is equivalent to a BW, and also see para 0026, where the number of credits is directly proportional to a BW/rate);**

requesting an additional replacement token **(para 0043, credit is requested)** from a centralized token source **(fig 4, 51 is the source of token as this circuit is what allocates tokens/credits)** interconnected with means **(fig 4, 50, where the BAT shown in fig 6 maintains the count of tokens/credits)** for maintaining the centralized count **(fig 4, 50, where the BAT shown in fig 6 maintains the count of**

tokens/credits) when a data packet from a given one of said distributed sources is placed in queue **(fig 6 shows the counts of credits accumulated for each queue)** for transfer on said communication path **(fig 4, 38 shows a communication path of sent data)**; and

Bly does not specifically disclose supplying additional replacement token(s) upon request until the authorized BW is used up in a given operational time period.

Lee discloses supplying additional replacement token(s) upon request until the authorized BW is used up in a given operational time period **(Col 10 lines64-Col 11 line 3, where additional bandwidth is allocated until it runs out and max is reached).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the BW allocation scheme of Bly, as taught by Lee, since stated in Col 1 lines 22-24, that such a modification would allow packets to be routed quickly and more efficiently.

Regarding Claim 13. Bly discloses maintaining an allowable standby count for each authorized class wherein the standby count **(see fig 6)** is dynamically adjusted (para 0038)

Bly does not specifically disclose adjustment in accordance with communication path congestion; and supplying additional replacement token(s) upon request until both the authorized BW token count and the standby count, for the class of token requested, are used up in a given operational time period.

Lee discloses adjustment in accordance with communication path congestion **(Col 11 lines 1-3, where Lee stops/adjusts BW allocation when a max threshold/congestion threshold is reached)**; and supplying additional replacement token(s) upon request until both the authorized BW token count and the standby count, for the class of token requested, are used up in a given operational time period **(Col 10 lines64-Col 11 line 3, where additional bandwidth is allocated until it runs out and max is reached).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the BW allocation scheme of Bly, as taught by Lee, since stated in Col 1 lines 22-24, that such a modification would allow packets to be routed quickly and more efficiently.

Regarding Claim 15. Bly discloses maintaining a centralized **(fig 6 shows a centralized count of the credits, where the bandwidth allocation table is considered a central unit)** count of class specific data packet tokens distributed **(see fig 6, which depicts the amount of tokens mapped to each queue)** where each data packet token represents a definable portion of authorized BW **(see claim 1, lines 15-22 shows BW credit, where the credit is equivalent to a BW, and also see para 0026, where the number of credits is directly proportional to a BW/rate);**

requesting an additional replacement token **(para 0043, credit is requested)** from a centralized token source **(fig 4, 51 is the source of token as this circuit is what allocates tokens/credits)** interconnected with means **(fig 4, 50, where the BAT shown in fig 6 maintains the count of tokens/credits)** for maintaining the centralized

count **(fig 4, 50, where the BAT shown in fig 6 maintains the count of tokens/credits)** when a data packet from a given one of said distributed sources is placed in queue **(fig 6 shows the counts of credits accumulated for each queue)** for transfer on said communication path **(fig 4, 38 shows a communication path of sent data)**; and

Bly does not specifically disclose supplying additional replacement token(s) upon request until the authorized BW is used up in a given operational time period.

Lee discloses supplying additional replacement token(s) upon request until the authorized BW is used up in a given operational time period **(Col 10 lines64-Col 11 line 3, where additional bandwidth is allocated until it runs out and max is reached).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the BW allocation scheme of Bly, as taught by Lee, since stated in Col 1 lines 22-24, that such a modification would allow packets to be routed quickly and more efficiently.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal (Us 7006440) in view of Hosein (US 6570847) in further view of Lee et al. (US 7224671), hereinafter referred to as Lee.

Claim 14 Agrawal discloses assigning a unique class identity **(Col 5 lines18-22, where a classifier is used to classify the incoming data)** and a designated allowable

BW from said assignment entity **(Col 5 lines 28-37, the classifier ensures that the bandwidth upholds to specifications as described);**

supplying said assigned unique class identity **(Classifier identifies packets in 74 of fig 2 and see Col 5 lines 20-22, where the packet that is sent through fig 2 contains an identifier within a field of the packet)** and designated allowable BW from said assignment entity to load shaping entities **(fig 2, where the identified data is sent to a shaper)** interconnected to said communication path **(see fig 2, where the link joining 74 and 76 is equivalent to a communication path)**, by said assignment entity, of acceptance of said requested BW by said first entity **(fig 5, where a pass indicates an acceptance);**

Agrawal discloses sending data packets from said first entity to said load shaping entity **(see ingress side of fig 2)** for transmission on a bus attended by said load shaping entity, each of said data packets providing class priority information including said unique identity **(Col 5 lines 18-22);**

Agrawal discloses permitting transmission of data packets over said bus by unmanaged entities when no managed BW entity data packets await transmission **(Col 6 lines 31-54, where the claim does not define managed and unmanaged entities, where as broadly interpreted best effort entities are equivalent to an unmanaged entity, as the BW allocated to this from of traffic is allocated after all other pending traffic of higher priorities is attended to). .**

Agrawal does not specifically disclose submitting a request, from a BW managed first entity, for a given bandwidth to an assignment entity. Agrawal also does not

disclose allocating a given number N of time slots commensurate with said designated BW, for use over a predetermined number of time slots, for use by said first entity for as long as said first entity continues to supply said data packets for transmission.

Hosein discloses submitting a request, from a BW managed first entity, for a given bandwidth to an assignment entity **(Col 3 lines 1-5, a message for the desired rate/BW);**

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system as disclosed by Agrawal, so that a message from an entity is transmitted in order to specify the rate at which data should be controlled. The motivation for this modification is to control the rate/BW in accordance with a specified rate determined by an entity.

The combination of Agrawal and Hosein do not specifically disclose allocating a given number N of time slots commensurate with said designated BW, for use over a predetermined number of time slots, for use by said first entity for as long as said first entity continues to supply said data packets for transmission.

Lee discloses allocating a given number N of time slots commensurate with said designated BW, for use over a predetermined number of time slots **(Col 10 lines 34-37),** for use by said first entity for as long as said first entity continues to supply said data packets for transmission.

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the combined teachings of Agrawal and Hosein, so

that allocation of BW is associated with given timeslots as disclosed by Lee. The motivation for this modification is to control a rate as disclosed by lee.

Response to Arguments

10. Applicant's arguments filed on 5/7/08 have been fully considered but they are not persuasive.

a. With regards to claims 10 and 11, the applicant argued that the cited art does not specifically disclose "an authorized minimum bandwidth".

The examiner maintains that the limitation interpreted within its broadest scope is disclosed within the rejection of claim 10, wherein Bly discloses **(para 0030, where an available/authorized credit is allocated/authorized, where from para 0029, the minimum rate/BW is equivalent to one credit...).** Thus, Bly teaches that a minimum rate/bandwidth is equivalent to one credit, where Bly goes on to teach that available credits are allocated based on a request for credits, where this allocation of credits is equivalent to an authorization.

b. With regards to claim 1, the applicant argued that the cited art does not specifically disclose "the allocation table includes bandwidth **authorized** for a class".

The examiner maintains that the limitation interpreted within its broadest scope is disclosed within the rejection of claim 1, wherein Bly discloses within fig 6, a table showing a number of queues, where these queues are classified according to lines 1-5 of para 0024. Furthermore, Bly teaches within the table,

the classified queues corresponding to an allocation of credits, where credits are allocated from element 51. This allocation of credits is equivalent to an authorization of credits, where the credit is a form of bandwidth according to line16 of claim 1, "credit bandwidth".

c. With regards to claim 3, the applicant argued that the cited art does not specifically disclose "**a centralized controller** having access to the **compilation of information**".

The examiner maintains that the limitation interpreted within its broadest scope is disclosed within the rejection of claim 3, wherein Bly teaches a centralized controller **(fig 4, 51, where the credit allocation circuit is equivalent to a controller)** having access to said compilation of information **(compilation of info 50 has access to credit allocation circuit 51 through the shaping means 34)**.

With regards to claim 3, the applicant also argued that the cited art does not specifically disclose "providing transmission tokens for each authorized class up to the total minimum BW and presently allowable standby BW".

The examiner maintains that the limitation interpreted within its broadest scope is disclosed within the rejection of claim 3, wherein Bly teaches providing transmission tokens **(fig 8, 86 provides/adds credits/tokens)** for each authorized class (fig 8, 86, where the credits are added from burst groups, where the burst group dictates a class of device or service, and this allocation of credits is equivalent to an authorization) up to the total minimum BW (para 0029 teaches

a minimum BW/rate of one credit) and presently allowable standby BW (standby BW is the bandwidth added given one loop experienced in fig 8, where a standby bandwidth can also be represented by the updated credit for all burst groups according to 100 of fig 8).

d. With regards to claim 7, the applicant also argued that the cited art does not specifically disclose, "comparing a payload class against class restriction status".

The examiner maintains that the limitation interpreted within its broadest scope is disclosed within the rejection of claim 7, wherein Bly teaches comparing a payload class (Col 8 lines 54-60, where the drop count is checked/compared for the incoming data, and dependent on the class of the data, data is determined to be dropped or passed, where the class of data is the class of the payload data) against class restriction status (Col 9 lines 17-19, where reaching a certain capacity threshold is equivalent to a restriction status, where the threshold is a form of restriction). Furthermore, the claim does not clearly define a payload class, or a class restriction status, so it is therefore interpreted by the examiner in its broadest sense.

e. With regards to claim 5 and 16, the applicant argued that the cited art does not specifically disclose the unique combination of best efforts data packets and authorized class of managed data sources and further the BW of each class being centrally controlled.

The examiner contends that Bly discloses for best efforts data packets **(para 0038, discusses best effort services for certain types of data)** and each separately identified **(Col 7 line 5-6, packet header which contains a destination and source address for identification)** and authorized class **(para 0016 and 0024 show classification of data, which is an authorized procedure)** of managed data sources **(para 0016 shows that classification can be based on the type of customer such as customer X, where customer X is the source),** the BW of each class being centrally controlled **(para 0028, where a shaping engine control allocated BW).**

With regards to claim 5 and 16, the applicant argued that the cited art does not specifically disclose, "replacing a given class token".

Bly discloses replacing (fig 8, 100, where updating is equivalent to replacing) a given class token (fig 8, 100, where the credit is equivalent to a token, and the credits are for burst groups, which are equivalent to different classes).

f. Regarding claims 6, 12 and 15, refer to (e) above for the response to the applicants arguments pertaining to "replacement".

g. Regarding claim 8, the applicant argues that the cited art does not specifically disclose the applicants claimed, "base and standby BW's"

Bly discloses within fig 6, which shows a table mapping the queues to a number of credits, where para 0026 shows that the number of credits is directly proportional to the queue rate/BW, thus credits are determined to represent a

form of BW, where the claim does not specify any differences b/w base and standby. Furthermore, any of the credits shown in fig 6 can be equivalent to base tokens such as for queues within 76 and then standby tokens may be equivalent to the credits for 77.

h. Regarding claim 14, the applicant argued that the cited art does not specifically disclose the applicants claimed, "assigning a designated allowable BW from the assignment entity"

The combination of Agrawal and Hosein disclose within Agrawal assigning a designated allowable BW from the assignment entity (the controlling of token assignment/allowance for bandwidth provisioned configuration according to Col 7 lines 10-15, where the token bucket policier is equivalent to an assignment entity).

Furthermore, Hosein discloses assigning (Col 3 line 9, where the switch adds tokens) a designated allowable BW (Col 3 lines 1-3, where the tokens regulate the rate, so therefore they are assigned as a provisioning BW) from the assignment entity (switch 203 does the addition of tokens).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER P. GREY whose telephone number is (571)272-3160. The examiner can normally be reached on 10AM-7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moe Aung can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2616

/Christopher P Grey/
Examiner, Art Unit 2616